Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20:	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
			2,900	Participating homes	Conservation & Development	Justin Sullivan		Engage with PG&E to provide multilingual and culturally relevant educational material to residents and business	•Through the East Bay Energy Watch the County engages with PG&E on educational materials. The
EE 3	Provide education and outreach highlighting the benefits of energy conservation.	430	60 Participating busine	ν	Health Services Susan Psai		Near-Term (by 2018)	<ul> <li>Work with the Bay Area Green Business Program to highlight examples of energy-efficient local business</li> </ul>	County also has initiated collaboration with MCE on outreach materials.  • As of November 2017, there are 329 certified green businesses in Contra Costa Green Business Program (CCGBP). Since August 2017, CCGBP has referred 4 businesses to East Bay Energy Watch (EBEW) for energy audits. Starting in January 2018, all businesses, regardless of business or facility size, pursuing certification/recertification will also be referred to PG&E.
			1,790	Existing homes completing cool roof retrofits	Public Works			To increase use of higher-albedo materials     Encourage developments with parking lot areas to shade	All applications for building permits must meet current building code requirements.
			9	Existing businesses completing cool roof retrofits				these with vegetation or solar panels  • Promote the use of low-impact development (LID) strategy and reduction in impervious surface area of new development	Residential Cool Roof installations by year: 2010-54,
EE 4	Reduce urban heat islands through vegetation management and cool surfaces.	20	500	New shade trees	Conservation & Development	Aruna Bhat	, I	Support programs to plant and maintain trees.	2011-46, 2012-31, 2013-10, 2014-44, 2015-73, 2016-226, 2017-335 to date. Commercial Cool Roof installations by date: 2014-2, 2016-3, and 2017-2 to date.
RE 2	Promote installation of alternative energy facilities on public land.	270	1	MW of solar installed at public facilities in the unincorporated area	Conservation & Development Public Works	Brian Balbas	Near-Term (by 2018)	Continue to install alternative energy facilities on public buildings and land in unincorporated county     Continue to participate in Regional Renewable Energy Procurement Project or similar bulk purchasing programs     Work with East Bay Municipal Utilities District and other wastewater processors to install cogeneration infrastructure treatment facilities	Current installed capacity on County facilities is 4.38 MW.     Not aware that the County has participated in regional bulk purchases for renewable energy.     Some wastewater processors and solid waste haulers are pursuing cogeneration projects.
LUT 3	Reduce emissions from off-road vehicles and equipment.	10	50	Lawnmowers traded in	Agriculture Conservation & Development	Matthew Slattengren Judi Kallerman	Near-Term (by 2018)	Work with BAAQMD to incentivize use of battery-powered lawn and garden equipment Provide support for the BAAQMD's voluntary exchange program for lawn mowers Work with BAAQMD to increase the use of alternatively fueled equipment in agricultural operations Consider an amendment to County Building Code to prohibit unnecessary idling of off-road and heavy equipment	The Agriculture Department has authority only over the use of pesticides, not the equipment in use.  Prohibiting idling of off-road and heavy equipment right now occurs on a case-by-case basis.
GO 1	Save energy used for public lighting.	580	7,210	Number of lightbulbs replaced with LED bulbs	Public Works	Joe Yee	Near-Term (by 2018)		The County owns 1,800 streetlights, all of which have been converted to LED. PG&E owns 5,800 street lights in the unincorporated County, all of which have been converted to LED. All traffic signals in the unincorporated County have been converted to LED.

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	202	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
GO 3	Conserve water.	Supportive of Overall GHG Reductions	Supportive	n/a	Public Works	Joe Yee	Near-Term (by 2018)	Continue to install water-efficient landscaping on County properties and where possible, remove turf from Countyowned facilities.	The County installed drought tolerant landscaping at the Pittsburg health clinic a couple of years ago. Based on the success of that project, the Board of Supervisors recently approved a contract for additional landscaping projects that will remove turf and replace it with drought tolerant landscapes.
			3000 210	Single-family homes receiving basic retrofits Single-family homes receiving advanced retrofits				Continue to expand participation in energy efficiency and energy efficiency rebate programs     Collaborate with local organizations and PG&E     Increase participation in low-income weatherization program	Total GHG reductions to date = 1,211 MTCO. 298 in 2015, 344 in 2016, 458 to date in 2017. Coordinated and implemented annual Single-Family homeowner workshop with an average attendance of
EE 1	Provide opportunities for residential	2,140	700	retrofits	Conservation & Development	Justin Sullivan Demian Hardman		Identify disadvantaged individuals to increase participation     Work with PG&E to promote appliance rebate program;     participate in Property Assessed Clean Energy (PACE)	50-70 homeowners to provide information regarding home energy efficiency rebate programs. Distribute quarterly mailers to multi-family property owners
	buildings to become more	_,	150	Single-family homes receiving pool pump upgrades			2020)	programs.	regarding available energy efficiency rebate programs.  Through Hazardous Materials Ombudsman, launching
	energy efficient.		2,010	Homes receiving appliance upgrades					pilot program to enlist nurses who work with low income seniors to provide information on weatherization opportunities.  • Two PACE providers are operating currently in unincorporated County. Staff will ask Board for
			240	Businesses receiving retrocommissioning				Continue to expand participation in energy efficiency and financing programs	Data on GHG reductions is not yet available; County staff is working with PG&E to obtain this information.
	Provide opportunities for nonresidential		120	Businesses receiving standard retrofits				Provide focused outreach to local business     Develop outreach materials explaining financing	2000 mailers were sent to unincorporated businesses throughout the County in 2016 to educate business
FF 0		4,630	30	Businesses receiving deep retrofits	Concernation 9 Develorment	Demian Hardman	Mid-Term (by 2020)	opportunities • Identify staffing and revenue stream to develop shared landlord-tenant program	owners of available energy efficiency program rebates.  Coordinated with Sustainable Contra Costa (non-profit) to implement a targeted door-to-door marketing
EE 2	buildings to become more energy efficient.		300	Businesses receiving appliance upgrades	Conservation & Development			Inform nonresidential business owners about savings potential from retrocommissioning, retrofits and deep retrofits Inform business community of monetary benefits with energy efficient appliances; collaborate with 4CL and PG&E to develop and implement outreach.	campaign in specific areas requested by PG&E throughout the County.
EE 5	Increase Contra Costa County's capacity for energy efficiency through financing opportunities and workforce training.	Supportive of Overall GHG Reductions	Supportive	n/a	Conservation & Development  Health Services Public Works ; additional departments, depending on grant resources	Jason Crapo Jody London		or allocations to fund energy efficiency and resource conservation programs  • Work with Contra Costa Community College District and Contra Costa Workforce Development Board to develop workforce training programs for green jobs	Regarding financing, staff continues to monitor and pursue Cap & Trade and other funding opportunites. Opportunites from Cap and Trade have not been as robust to date anticipated. Given the recent success of the Cap and Trade auction, we expect this could change. We have received grants from other sources that allow us to pursue transportation, green infrastructure, and renewable energy projects that support the Climate Action Plan. Staff has not commenced developing a framework for revenues from Cap and Trade or other sources. Staff is developing relationships with Community College District and Workforce Development Board.
			30		Concernation & Development	Jason Crapo		Identify and remove barriers to zero net energy     Work with developers, property suppose and financial depose.	Staff is developing a draft ordinance that would
	_		3	New ZNE businesses	Conservation & Development			Work with developers, property owners, and financial donors     construct and publicity overhead are not operate home.	require solar to be installed on most new residential

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
EE 6	Support the statewide transition to net zero energy construction for new residential buildings by 2020 and new nonresidential buildings by 2030.	290	12	Retrofitted ZNE homes  Retrofitted ZNE businesses	Public Works	Brian Balbas	Mid-Term (by	process, including cost effectiveness  Explore making new and significantly retrofitted County buildings zero net energy	Supervisors in Q1 2018.  •As part of its new Distributed Energy Resources program, the Public Works Capital Improvement group is working to identify a project where a building undergoing significant retrofitting can be readily and lifecycle cost-effectively upgraded to Zero Net Energy (ZNE). Existing incentive funds, accrued through ongoing utility rebates have been identified to fund the PV, energy-efficiency, energy storage and demand response measures needed to achieve ZNE.
RE 1	Promote installation of alternative energy facilities on homes and businesses.	8,820	50 2,500 10 60 3,740	Existing homes with solar arrays  New businesses with solar arrays	Conservation & Development	Will Nelson Jason Crapo Abed Chowdhury		covered by AB2¹88  • Train planning staff to provide guidance and information on the streamlined process and available incentives  • Develop standards for ministerial approval of rooftop energy systems on commercial buildings and warehouses  • Encourage participation in PG&E's green tariff program	See EE6 re residential solar ordinance. The Board's approval of community choice energy and decision to join MCE provides added incentive for property owners to install solar resulting from MCE's more attractive net metering program. DCD continues to issue large numbers of building permits for rooftop solar on the order of 1,500 per year, well exceeding the target established in the CAP. Planning Commission is recommending to Board of Supervisors a requirement for conditional use permits for larger solar systems on commercial buildings and warehouses that would sell excess energy commercially. Utility green tariff programs are not well subscribed in California, irrespective of County actions.
RE 3	Lower barriers to entry for the installation of alternative energy systems.	Supportive of Overall GHG Reductions	Supportive	n/a	Conservation & Development	??	Term (by 2020)	Connect low-income homeowners with renewable energy rebate and financing programs Work with local government and neighboring areas to participate in solar bulk-buying program Connect business owners to finance and rebate programs Work with PG&E to identify insufficient grid capacity areas Continue exploring options for implementing Community Choice Aggregation within the unincorporated area of the County	As indicated above there are two PACE programs in the unincorporated County, with a third potentially coming on board in 2018. The County is about to begin a study of renewable resource potential, and recommended changes to zoning that would facilitate installation of more renewable energy. The study will identify grid capacity constraints. The County and nine cities in 2017 decided to join the five Contra Costa cities that had already joined MCE. The new communities are expected to switch over to MCE in April and May 2018.

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
LUT 1	Maintain and expand access to goods, services, and other destinations through increased transportation alternatives (mobility improvements) and improved proximity (land use improvements).	910	33,630	Average countywide bike trips per weekday	Conservation & Development Health Services Public Works	Steve Kowalewski	Mid-Term (by 2020)	nonprofits and other stakeholders to expand bicycle, pedestrian and existing public transportation  • Assist with Safe Routes to School implementation  • Work with local agencies to encourage bicycle safety classes in all schools  • Update County road standards to accommodate all modes of transportation  • Identify periodic updates through the Contra Costa Transportation Authority's Countywide Bicycle and Pedestrian Plan (CBPP) and work with adjoining jurisdictions to update and implement  • Revise the County CEQA guidelines to reflect implementation of Senate Bill 743  • Establish a 2020 mode share goal for bicycling by Board of Supervisors resolution, identify actions to reach goal, integrate into future General Plan updates and appeal other agencies to adopt same goal  • Identify funding sources to support increased walking and bicycling activity	<ul> <li>Collaboration is an ongoing activity pursuant to our participation inthe Contra Costa Transportation Authority's Regional Transportation Planning Committees. Specifically, we have requested (and received) a grant to study the use of the Iron Horse Corridor as a "Bicycle Superhighway" and for the use with autonomous shared vehicles.</li> <li>Bicycle safety is done on a subregional level in cooperation with the Regional Transportation Planning Councils. A countywide proposal was proposed (by the County) during the Measure X Transportation Expenditure Plan development and received no interest.</li> <li>Road standards update was removed from the Board of Supervisors' Transportation, Water, and Infrasturcutre Committee referrals and interdepartmental working group scope of work due to the limited return on investment of the effort.</li> <li>CCTA is updating the CBPP right now, County staff is engaged in the process.</li> <li>We are awaiting final guidance from the state on SB 743; final guidelines are about a year overdue.</li> <li>We have, and we will continue to, encourage CCTA to include such a metric in their policies.</li> <li>This in an ongoing activity and we regularly apply for grant funds to meet this goal and conduct legislative advocacy to increase funding for this mode.</li> </ul>
			4700	Annual VMT per public charging station	Conservation & Development  Public Works  additional departments,	·		<ul> <li>As possible, include alternative-fuel use goals in franchise agreements for waste hauling and contracts with other vehicle fleets</li> <li>Support development of alternative-fuel and electric vehicle (EV) charging stations, including amending parking design</li> </ul>	<ul> <li>One waste hauler has voluntarily converted fleet to compressed natural gas. Other franchise agreements will be up for renegotation in about five years, at which time requirements for alternative fuel vehicles can be explored if haulers have not made that change already.</li> </ul>
			14,220	VMT per EV	•			and layout section (82-16-404) of the County Zoning Code	EV provisions are located in County Code Sections
			4,830	Electricity use per EV				Pursue grant funding opportunities to install public EV     chargers or other alternative fuel charging stations.	74-4.006(j) and 82-16-404(e).  • The County was awarded a \$21,000 "Charge!" grant

Measures	s Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
LUT 2	Expand the use of alternative fuels in vehicle travel.	7,630	1,790	Households with an EV			Mid-Term (by 2020)	Grangers of Ortier alternative ruer Granging Stations	in July 2016 to install EV charging stations at certain County facilities (30 Muir Rd and 255 Glacier Dr.). Staff is currently working on implementation. Staff is in discussions with the Bay Area Air Quality Management District and may apply for another EV "Charge!" grant.  • County staff is working with staff from the Contra Costa Transportation Authority on an EV shared mobility readiness plan. As of November 2017, staff is looking for funding to develop the plan, developing a scope for the plan, and introducing the concept to city planners, managers, and other stakeholders.  • Public Works is pursuing grant funding and related to installing public EV chargers as follows:  1. Initiated discussions with PG&E pertaining to the EV Charge Network program. The program requires an easement and a ten year agreement.  2. Public Works has identified California Air Resources Board Low Carbon Fuel Standard Program (LCFS) as a source of continuing cash flow for EV chargers.
LUT 5	Provide opportunities to grow, sell, and purchase local food.	Supportive of Overall GHG Reductions	Supportive	n/a	Agriculture Conservation & Development County Administrator's Office	Slattengren Stan	Mid-Term (by 2020)	Continue to support local farmers markets, community gardens, school gardens and urban agricultural practices Amend Zoning Code to allow urban agriculture in appropriate areas Amend General Plan to add policy to encourage community gardens in new residential developments Encourage partnerships between local food growers and local food retailers Encourage partnerships between local food growers and local schools, hospitals, colleges and correctional facilities Continue to discourage schools being sited in agricultural areas	It is not clear who in the County has lead on supporting farmers markets, school gardens. Completed. The County Code allows "crop and tree farming" in all residential districts. Scope and approach for General Plan update will go to Board of Supervisors for approval in December 2017. It is not clear who has lead for encouraging partnerships between local food growers and retail and institutional organizations. The County continues to advocate and educate about the importance of siting schools within the urban limit line.

Mea	ures Policy Langua	2020 GHG Reductions (MTCO <sub>2</sub> e)		020 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
W 1	Develop a waste reduction strategy to increase recycling and reuse of materials.	n 25,780	90,850	Tons of waste reduced	Conservation & Development	Deidra Dingman	Mid-Term (by 2020)		submitted to CalRecycle to demonstrate compliance with the diversion requirements in the Integrated Waste Management Act, the amount of unincorporated area waste reported to have been disposed of in landfills in 2016 equates to a diversion rate of 68%.  2. Organic waste collection services are offered to residents in all four County franchise areas (one of which includes acceptance of food waste). Organic waste collection services are offered to businesses in three of the four County franchise areas (not yet offered in Crockett, Port Costa & Tormey area).
W 2	Reduce fugitive methane emissions and other greenhouse greenissions from solid waste landfills.	s 29,500	29,500	Increase in captured landfilled gas (MTCO₂e)	Conservation & Development Health Services	Deidra Dingman		1.Annually verify compliance with California Air Resource Board's landfill methane control measures 2.Request landfill operators consider additional reduction actions: reduce materials with high methane-generation potential, reduce idling time for diesel equipment, encourage adequate maintenance of rolling stock, establish standards beyond the required for landfill gas collection system leak detection and prevention, and excluding the use of green waste as a material for alternative daily cover (ADC), consistent with AB 1594 3. Amend General Plan and Zoning Code to allow renewable energy generation, such as solar and wind, on closed landfill areas	1. Ongoing. 2. Provisions requiring that source-separated organics waste collected by haulers providing services pursuant to two of the County's franchises be composted and no longer used as ADC have been added by way of amendments approved in 2015 and 2017. Additionally, the Board approved changes to one of the Conditions of Approval in the County issued LUP governing the Keller Canyon Landfill that requires the operator to proactively seek to ensure adequate composting capacity is available by 2020 to manage green waste currently used as ADC. 3. County Board of Supervisors expected to provide staff with direction in December about updating the General Plan.

Ν	1easures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
W	/E 1	Reduce water demand.	1,210	20%	Reduction from 2013 water use	Conservation & Development	Ryan Hernandez	Mid-Term (by	through conservation efforts in new and existing development  Continue to enforce water conservation requirements in new developments per the State Model Water Efficient Landscape Ordinance.	reduce potable water use by 20% in existing
W	/E 2	Provide alternative water resources for irrigation in residential and nonresidential areas.	Supportive of Measure WE 1		n/a	Conservation & Development	Ryan Hernandez	Mid-Term (by	Update the Dual Water Systems Ordinance to allow the use of recycled water for irrigation in residential and nonresidential areas	(1) The County continues to seek cost effective ways to promote rainwater collection for irrigation purposes but has not identified a clear path forward. It seems the scope of this measure may be better suited for collection and irrigation of rainwater in residential land uses and may not make a good business case to apply to larger agriculture uses.  (2) The County's Dual Water Systems Ordinance, Chapter 82-30, allows for the use of recycled water in designated dual water system areas.
G	02	Promote energy- saving tools and practices.	or Overall	Supportive	n/a	County Administrator's Office Public Works	Brian Balbas	Mid-Term (by	facilities, prioritize improvements, and upgrade facilities to save energy  Increase solar electricity use for County and agency operations  Develop policies related to powering off lights and appliances after hours  Site facilities that have more than 50 personnel in close proximity to infrastructure and services that support alternative commute modes	Public Works is has been working with County Counsel to resolve issues pertaining to PG&E's On-Bill Financing program, which provides up to \$4,000,000/year of funding to municipalities to perform cost effective energy efficiency work in their facilities. It appears that a solution has been identified through the use of a performance contractor who will guarantee the savings of the project.  Audits of existing and recently acquired facilities, the prioritization of improvements and upgrade of facilities to save energy will be accomplished by the abovementioned performance contractor.

Measure	s Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	20	20 Performance Targets	Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
GO 5	Establish budgeting and administration practices to support the Climate Action Plan.	Supportive of Overall GHG Reductions	Supportive	n/a	County Administrator's Office Public Works	Eric Angstadt Brian Balbas	2020)	for local GHG reduction, advocate for additional transit	Purchasing specfications updated in 2010 that address source reduction, recycled content, energy and water savings, green buildings, landscaping, toxics and pollutants, forest conservation, and bio-based products.  In 2015, 231 out of 1,587 vehicles (14.5%) were alternative fueled. In 2016, 303 out of 1533 vehicles (21%) were alternative fueled. The County fleet uses renewable diesel fuel. In 2016, the County's fleet was recognized by the East Bay Clean Cities Coalition as a Clean Air Champion for our fleet operations.
			54,400	BART extension trips taken by unincorporated County residents				ridership • Partner with waste haulers and other fleets to reduce	Ongoing planning activity; currently we are participating in the "North Concord to Antioch BART Access Study" and the CBPP update.
			32,740,820	New bus ridership miles taken by unincorporated county residents				Support and increase the use of carpooling services     Continue to promote voluntary trip reduction programs	The County is not currently working on reducing frequency of routes. This sector of the transportation system is undergoing
LUT 4	Reduce vehicle miles traveled.	4,080	1,202,980	New BART ridership miles taken by unincorporated county residents		John Cunningham	Long-Term (by 2035)		substantial change due to microtransit and transportation network companies (Uber, Lyft, etc.) CCTA is conducting a Countywide transportation demand management study in which the County will participate. The County is pursuing and affordable housing project across from the Bay Point BART station, Orbosonia Heights.  • This in an ongoing activity. We are participating in the North Concord to Antioch BART Access Study, the CBPP update, and we are nearing completion on the Treat Blvd/CC Centre BART Access Study.  • The County's T-1 Funding Program continues to fund critical transit service in the Tassajara Valley and when appropriate, we urge our city partners to adopt similar mechanisms with development applications. This approach is an uncommon way to fund transit operations but may become more attractive when SB743 comes in to effect.  • I'm not sure where this comes from or what a PED in a residential community would look likethis language may need to be updated. Maybe this language predates the sustainable communites strateov. The

Measures	Policy Language	2020 GHG Reductions (MTCO <sub>2</sub> e)	2020 Performance Targets		Responsible Agencies	Lead Staff	Time Frame	Action Items Identified in CAP	Progress to Date
			1,170,070	Estimated decrease in VMT from HOV lanes					current tools that reflect this are: Priority Development Areas (PDA), Priority Conservation Areas (PCA), and the emerging Priority Production Areas (PPA). The County has complied with requirements relative to PDAs and PCAs. The County advocated for the creation of a PPA program and will monitor the development of this tool and corresponding funding programs and need to change policies.
GO 4	Reduce waste.	Supportive of Overall GHG Reductions	Supportive	n/a	Public Works	Brian Balbas	Long-Term (by 2035)	facilities  Educate and train staff to recycle and compost	Most County facilities have recycling. The Department of Conservation and Development is piloting a composting program.     There is opportunity to develop waste diversion and reduction goals.